

Exhibit 2

LOW PROFILE SHAFT - TECHNOLOGY PROJECT

Objective

- * Develop catheter shaft components that when assembled together into a catheter provide a nominal shaft profile maximum of .035".
- * Shaft assemblies will be developed to support both high pressure (Flexor) and low profile conformable balloons.
- * The Low Profile Shaft assemblies will provide push, track and wire movement characteristics that are equal to or better than current front line catheters.

Low Profile Shaft components are intended to provide catheters with the following functional and marketing advantages:

1. Improved visualization,
2. Easier use of small guiding catheters (7F, 6F),
3. Smaller shaft size specifications.

Background

This technology project will employ two materials technologies to achieve its objectives. One consists of optimizing the use of thin wall high stiffness and strength tubing for proximal outer shafts and proximal inner member shafts. Materials explored for these applications include PEEK, Ultem, and Elastinite. The other technology is formulated polyethylene resins that are optimized for processing and lubricity while maintaining adequate mechanical properties. These will be applied to the intermediate shaft, the inner member, and the distal inner member shaft components. Preliminary work conducted on both of these technologies in the Materials Technology and other groups support the plausibility of the project objectives.

General Project Outline

- I. Extrude and characterize high stiffness thin wall tubing
- II. Select most promising candidates for proximal outer shaft and proximal inner member
- III. Screen shaft assembly methods for the above shaft components
- IV. Conduct screen of Formulated Polyethylene resins
- V. Extrude and characterize formulated PE tubing
- VI. Select most promising candidates for intermediate, inner member, and distal inner member shafts components

General Project Outline cont'd.

- VII. Screen shaft assembly methods for the above shaft components
- VIII. Optimize shaft design through modeling, analysis, prototyping and bench testing and select a maximum of two options per balloon target type(Flexor and Low Profile Conformable balloon options)
- IX. **Concept Review**
- X. Develop performance test protocol and determine suitable catheter chassis
- XI. Build test units (maximum four variations)
- XII. Conduct RE Tests and Heart Model Tests
- XIII. Conduct Animal Tests
- XIV. Gain Physician Input to the selection of the best options
- XV. Select best Low Profile Shaft options (for Flexor and LPC balloon options)
- XVI. Detail Specifications
- XVII. Conduct DFM and Mfg risk assessment
- XVIII. **Design Review**
- XIX. Freeze specifications and processes and complete documentation
- XX. Qualify vendors as appropriate
- XXI. Qualify/Validate processes and equipment as appropriate
- XXII. **Technology Project Review**

Technical Challenge

This project will achieve its objectives by optimizing current technology in thin wall catheter tubing. The key technical challenge is being able to achieve thin wall (.0025") tubular structures that still have adequate mechanical characteristics to provide the performance targets. Other specific technical challenges include achieving a minimum inner member ID while maintaining exceptional wire movement, minimizing the deflation lumen while maintaining adequate deflation times and developing shaft assembly techniques for these components that do not result in compromised performance.

Phase/Task	Start Date	Complete Date
Planning	8/15/93	10/1/93
Idea submitted		9/1/93
Concept team formed		9/15/93
Idea Funded and Prioritized		10/1/93
Technology POC	10/1/93	8/30/94
POC Specs Complete		7/31/94
Concept Review		8/30/94
Technology Performance POC	8/1/94	12/15/94
Performance Evaluation Complete		11/15/94
Select Best Options		11/30/94
Design Review		12/15/94
Technology Integration	11/15/94	3/15/95
Freeze Specifications		12/15/94
Qualify/Validate Processes		2/28/95
Qualify/Validate Equipment		2/28/95
Technology Project Review		3/15/95
Technology Project Complete		3/15/95

Resource Plan: Low Profile Shaft

Resources	Resource Requirements by Month (average hours per week)											
	Q3 93	Q4 93	Q1 94	Q2 94	Q3 94	Q4 94	Q1 95	Q2 95	Q3 95	Q4 95	Q1 96	Q2 96
Coal	8	8	8	8	8	8	8	8	8	8	8	8
EU Eng												
EU Tech												
ADG												
OT												
EFeb												
EX3												
Pid Mgr												
PA												
RD BM Eng												
RD BM Tech												
RD Bndng												
RD BT Eng												
RD BT Tech												
RD Coal Eng												
RD Coal Tech												
RD Eng												
RD Laser												
RD Matic Eng												
RD Matic Tech												
RD Modelling												
RD Process												
RD Shift Eng												
RD Shift Tech												
RD Tech												
RD Wire Eng												
RD Wire Tech												
SC Ext Eng												
SC Ext Tech												
SC OCT												
SC OE												
SC RE Eng												
SC RE Tech												
SDC Asm												
SDC ME												
SDC ME												
SDC Supv												
T Ext Eng												
T Ext Tech												
T IE												
T Inrd												
T ME												
T OE												
Other Eng												
Other Tech												

Low Profile Shaft

	1993	1994												1995
	O N D	J	F	M	A	M	J	J	A	S	O	N	D	J F M
CONCEPT DEVELOPMENT														
Stiff thin wall tube Dev. (PEEK, Ultem, Elastinite)														
*Extrude/Obtain Tubing	→ Δ													
*Characterize Tubing	→ Δ													
*Select POM candidates	✓ → Δ													
*Select PIM candidates	✓ → Δ													
Screen formulated PE's														
*Compound/Extrude tubing	▽ → → Δ													
*Characterize form PE tubing	▽ → → Δ													
*Select Int shaft candidates			▽ → Δ											
*Select Int IM candidates			▽ → Δ											
*Select Distal IM candidates			▽ → Δ											
*Screen shaft assembly methods		▽					→ Δ							
Optimize Shaft Design														
*Modeling & Analysis of options			▽ → → Δ											
*Prototype/Bench test options						▽				Δ				
*Select design options (max. 2 per balloon type)										Δ				
CONCEPT REVIEW										Δ				

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Low Profile Shaft

	1993	1994												1995
	O N D	J	F	M	A	M	J	J	A	S	O	N	D	J F M
DESIGN SELECTION														
*Develop perf. test Protocol									▽→Δ					
* Build test units									▽→Δ					
(max. four variations)														
*Do RE and Heart Model tests									▽→Δ					
*Conduct Animal Tests									▽→Δ					
*Gain Physician Input									▽→Δ					
*Select best option for Flexor												Δ		
*Select best option for LPC bln												Δ		
*Detail Specifications									▽→Δ					
*Do DFM									▽→Δ					
*Do Mfg risk assessment									▽→Δ					
DESIGN REVIEW												Δ		
INTEGRATION														
*Freeze Specs & Processes													Δ	
*Complete Documentation														
*Qualify any Vendors												▽→Δ		
(as appropriate)														
*Qualify/Validate processes &												▽→Δ		
Equip. (as appropriate)														
*Complete DFM													Δ	
*Complete Mfg risk assessment													Δ	
PROJECT REVIEW														Δ

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